

F. B. MORSE.

Whiffletree.

No. 67,208.

Patented July 30, 1867.

Fig 1.

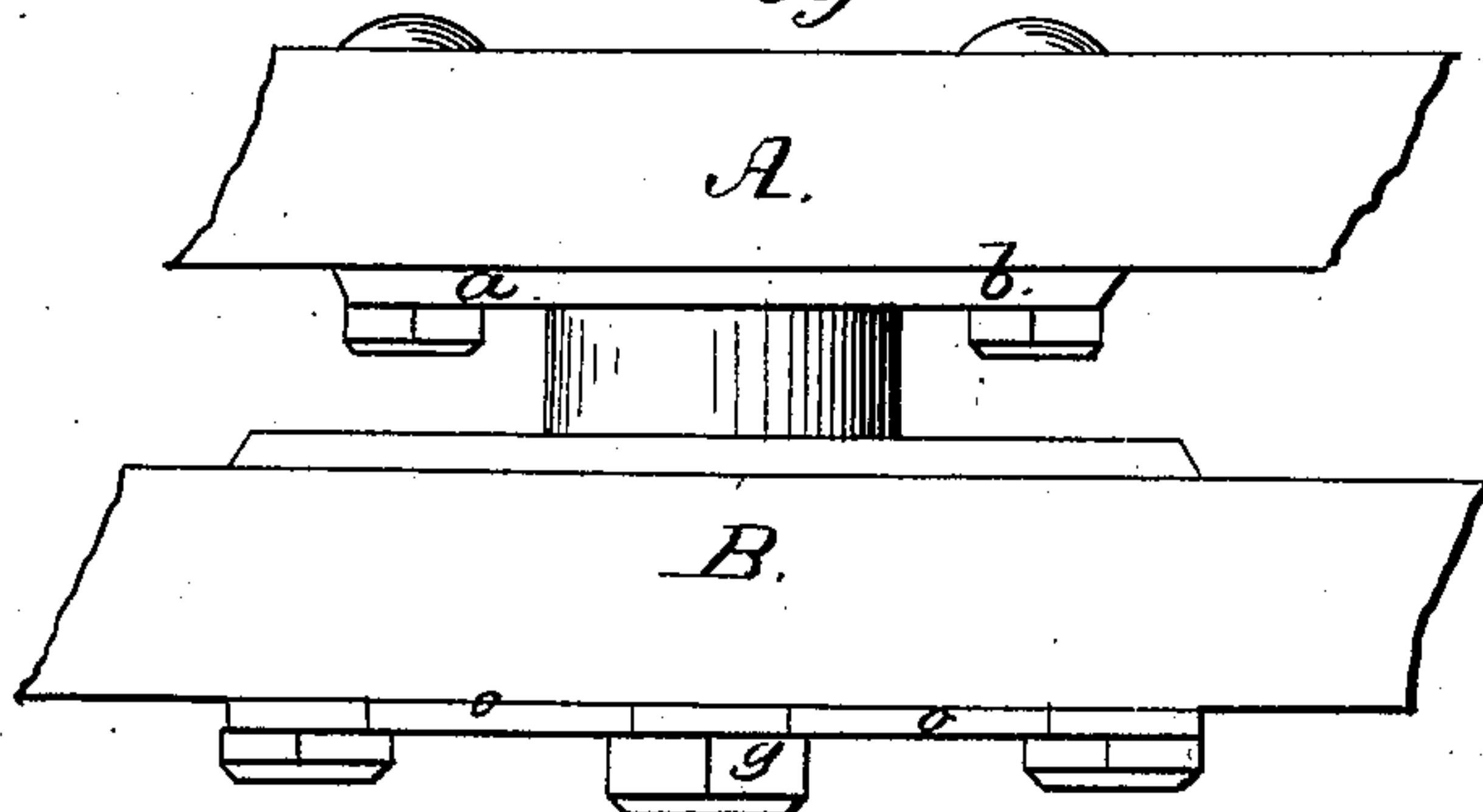


Fig: 2.

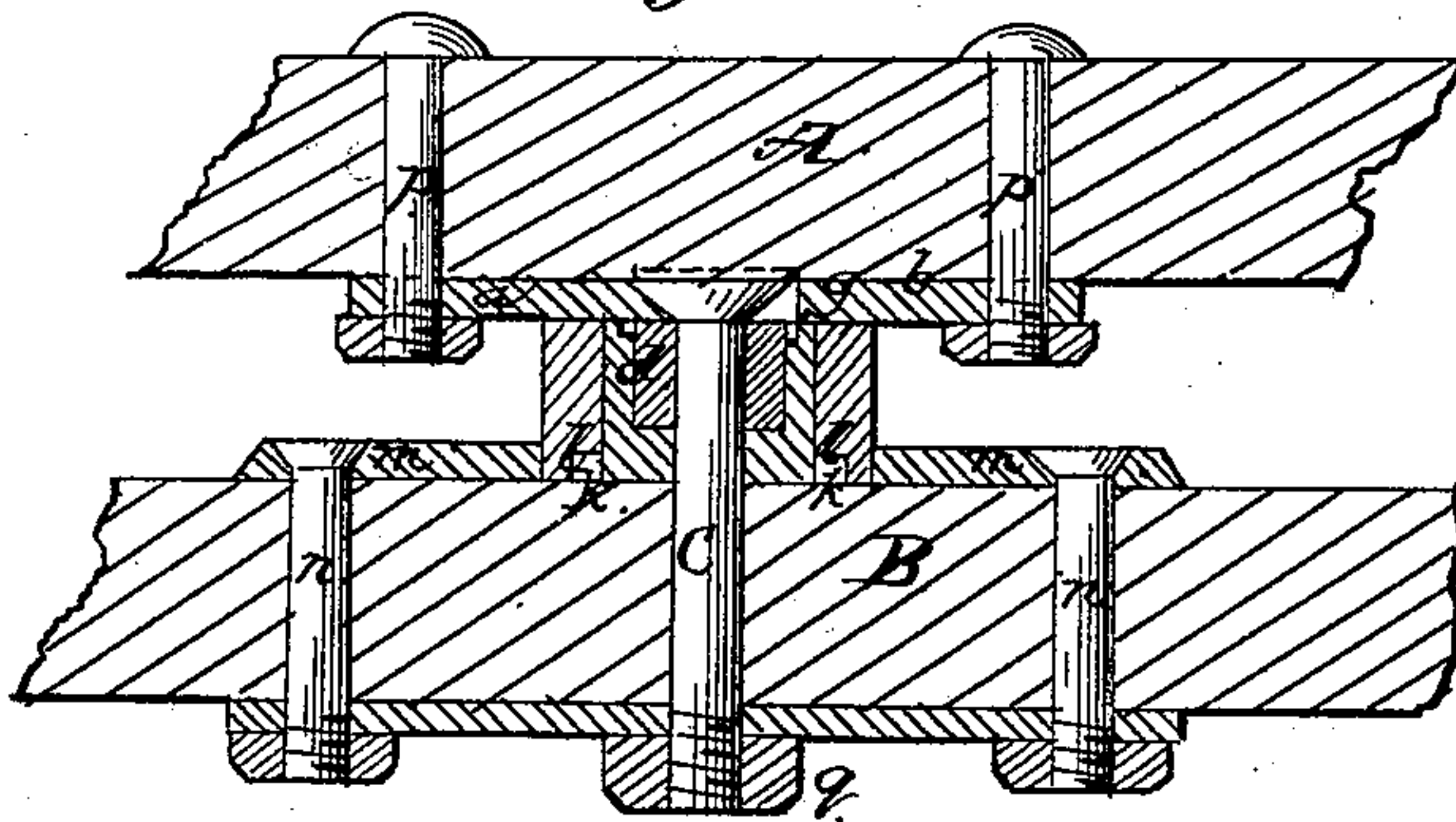


Fig: 3.

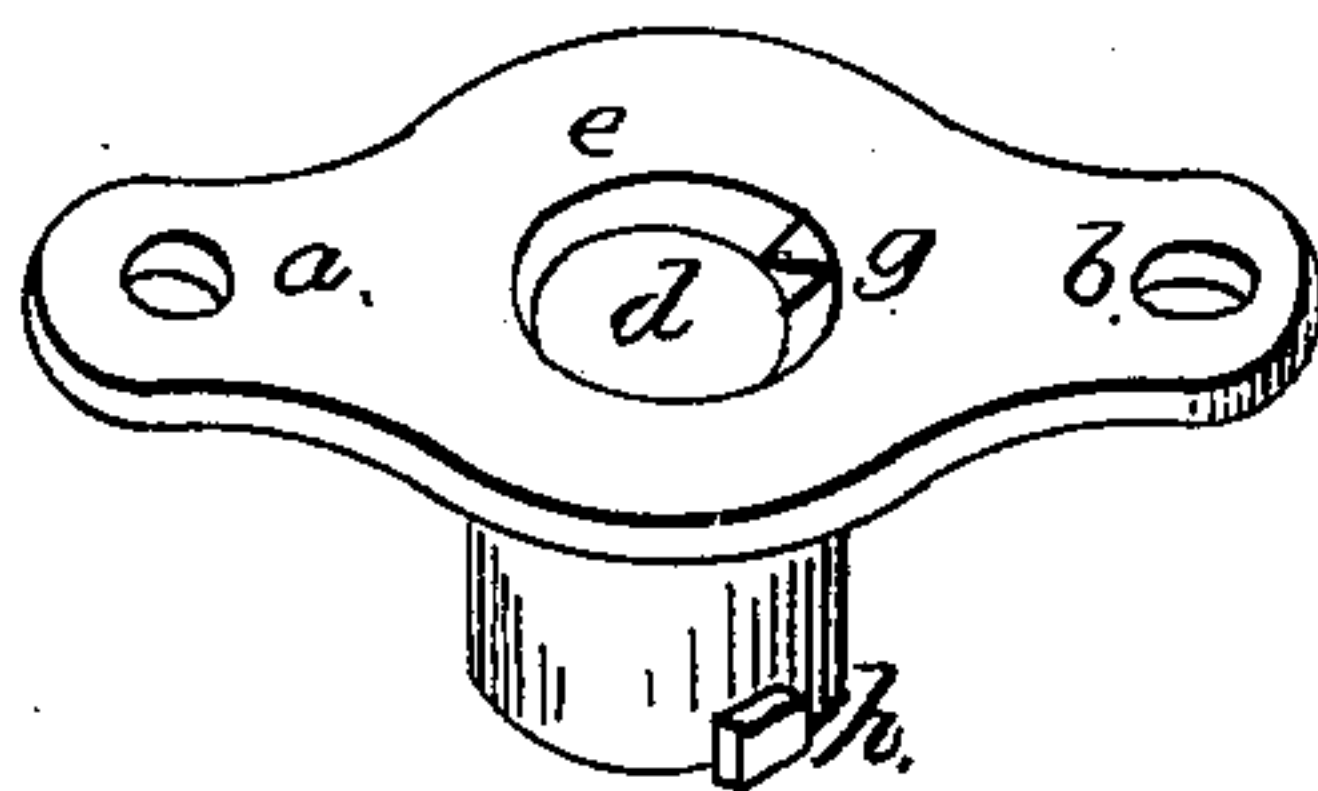
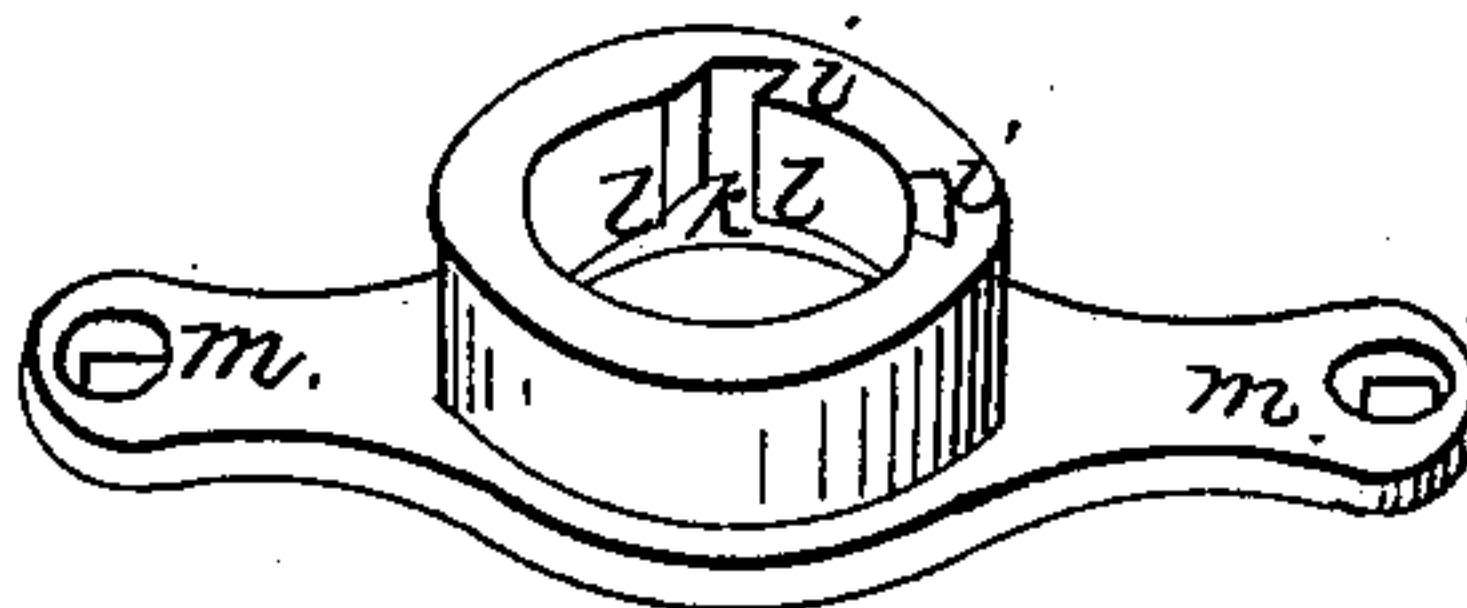


Fig. 5.



Fig: 4.



WITNESSES;

R. Fitzgerald
H. T. Leatung

INVENTOR;

F. B. Morse

United States Patent Office.

FRANCIS B. MORSE, OF NEW HAVEN, CONNECTICUT.

Letters Patent No 67,208 dated July 30, 1867; antedated June 7, 1867.

IMPROVEMENT IN WHIFFLE-TREE COUPLERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, FRANCIS B. MORSE, of the city and county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Whiffle-Tree Couplers for Carriages; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make part of this specification, in which—

Figure 1 is a front view of a central portion of the whiffle-tree and cross-bar, showing an outside view of the coupler.

Figure 2 is a longitudinal section of the same, cut vertically through the centre, showing the relative positions of the several parts of the coupler, &c.

Figure 3 is a perspective view of the upper or inner part of the coupler, or the part to be attached to the whiffle-tree, showing the projection or safety-hook which secures the parts together when in use, the cavity, &c.

Figure 4 is a perspective view of the lower or outer part of the coupler, or the part to be attached to the cross-bar, showing the channel through which the safety-hook passes, and the recess in which it works.

Figure 5 is a perspective view of a piece of India-rubber tubing, suitable for an elastic presser.

My improvement consists in making the coupler of two cylindrical parts, one working within the other, and secured together by a safety-hook or projection on the inner part, which hook works in a recess and under a shoulder in the outer part, so that when the shafts are attached to the carriage, the whiffle-tree cannot be uncoupled from the cross-bar, even if the main bolt is broken; and in fitting an elastic presser on the upper portion of the main bolt, and within a recess or cavity in the upper part of the coupler, so that by means of the nut on the lower end of the bolt, I can entirely obviate rattling. I make the upper or inner part of the coupler of malleable cast iron or any other suitable material, substantially in the form shown in fig. 3, with suitable projections or lugs *a* and *b* for attaching it to the under side of the whiffle-tree A, as shown in figs. 1, 2, and 3, and with a vertical hole through it to receive the main bolt, as shown at *c*, fig. 2; and I countersink a space or cavity, as shown at *d*, fig. 3, and in section at *d*, fig. 2, suitable to receive and contain a piece of India-rubber tubing, as fig. 5, and as shown in section at *d*, fig. 2; and also a suitable countersink to receive the head of the main bolt *c*, as shown at *e*, figs. 2 and 3; and a notch or channel to receive a projection or lip on the head of the bolt, as shown at *g*, figs. 2 and 3, to prevent the bolt from turning. Near the lower margin, on the outside of this part, fig. 3, I make a projection or knob, as shown at *h*, which I pass down through the channel *i*, fig. 4, where it works in the recess *k* under the shoulder *l l*, figs. 2 and 4, and serves as a safety-hook to hold the two parts, figs. 3 and 4, together, when in use. I make the lower or outer part of malleable cast iron, or any other suitable material, substantially in the form shown in fig. 4, with two projections or lugs, as *m* and *m*, by which I attach it to the cross-bar B, as shown in figs. 1, 2, and 3. I make a channel, as *i*, on one side of this part, fig. 4, to receive the projection *h* on fig. 3, and I countersink a recess, *k*, figs. 4 and 2, (from the lower end,) in which the projection or knob *h*, fig. 3, revolves or works as a safety-hook, to hold the two parts together when used. I make the main screw-bolt of wrought iron, or any other suitable material, substantially in the form shown at *c*, fig. 2, with a suitable lip or spline, as at *g*, to keep it from turning, and a head of suitable shape to act upon the upper end of the presser *d*, and, when necessary, on the upper portion of part, fig. 3, all as shown in fig. 2. I make the elastic presser of a piece of India-rubber tubing, as shown in fig. 5, or of any other suitable material, to fit the cavity or space shown at *d*, fig. 3, and the presser shown in section in the cavity at *d*, fig. 2. I attach the lower part, fig. 4, of the coupler to the upper side of the cross-bar B of the shafts by means of screw-bolts *n* and *n*, as shown in section in fig. 2, having an iron plate under the cross-bar B, as shown at *o o*, figs. 1 and 2, to steady the nuts. I place the elastic presser, fig. 5, in the cavity, or space *d*, fig. 3, and pass the main bolt *c* through it, all as shown in section in fig. 2; and I secure this part, fig. 3, to the lower side of the whiffle-tree A by screw-bolts *p p*, as shown in section in fig. 2. When the shafts are not connected with the carriage, I couple the whiffle-tree by passing the main bolt *c* down through the cross-bar B, and the projecting lip or safety-hook *h* down through the channel-way *i*, fig. 4, as indicated in fig. 2, and revolve the whiffle-tree A one-half of a circle, so that the safety-hook *h*, fig. 3, will be in the space *k* on the side opposite to the channel *i*, fig. 4, when the two parts cannot be separated when the shafts are attached to the carriage, even if the main bolt *c* should be broken. But the whiffle-tree can be detached by taking out the two screw-bolts *p* and *p*, fig. 2, leaving

the parts, figs. 3 and 4, coupled. I then turn the nut *q*, on to the lower end of the main bolt *c* sufficiently to cause the requisite strain on the elastic presser, as at *d*, fig. 2, to prevent rattling, when the whole will appear as in fig. 1, and be ready for use.

When I wish to uncouple the whiffle-tree, I detach the shafts from the carriage, turn off the nut *q*, revolve the whiffle-tree half round, so that the safety-hook *h* will correspond with the channel *i* in fig. 4, when the whiffle-tree, with the part, fig. 3, of the coupler, and the bolt *c*, may be easily lifted off.

This coupler is equally applicable for coupling an evenor or double whiffle-tree to a carriage-pole, except that the channel *i*, fig. 4, should be cut in the direction of one of the ears or lugs, *m m*, as indicated by dots at *i'*, fig. 4, instead of being at right angles to the lugs, as shown at *i*, fig. 4; and the single whiffle-trees may be attached to each end of the evenor in the same manner as described for the cross-bar. If deemed best, a small space may be bored out in the under side of the whiffle-tree *A*, to receive the head of the bolt *c*, as indicated by dots in fig. 2, and the head of the bolt *c* may be shaped like those of *p* and *p*, fig. 2, or any other convenient shape to act on the presser *d*, and, when necessary, on the countersink *e*, figs. 2 and 3. And the elastic presser may be cased with raw hide, or any other suitable substance, if thought best.

The advantages of my improvement consist in that the elastic presser is not subject to any wear, as the bolt and cavity turn with it; and in that the presser is never exposed to either injury, dust, or moisture; and in that the safety-hook will absolutely prevent uncoupling, even if the main bolt should break; and in that the coupler can be made as compact and symmetrical as if no presser or safety-hook were used, as, when in use, nothing appears to indicate either the anti-rattling or safety principle.

What I claim as my invention, and desire to secure by Letters Patent, is—

I claim the combination of the elastic presser with the recess *d* and the screw-bolt *c*, when the whole is constructed, combined, and fitted for use substantially as herein described.

F. B. MORSE.

Witnesses:

R. FITZGERALD,

H. KEATING.